Model & Expansion Of Inverter Fed Three Stage Induction Motor Using V/F Manage Plan

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Abstract: **The performance of the third phase of the inverter was measured using the MATLAB / Simulink software. To measure, pulses of inverter gates are made. A three-phase inverter device was implemented and test results were shown to be similar to those for measurement. Among all electric engines, import engines are the most widely used due to their reliability, low cost and power. Among the many import speed control methods, the V / f speed control method is widely used due to its simplicity. In this method, a continuous V / f ratio is maintained which maintains a constant magnetizing flux so that the maximum torque remains constant.**

Keywords: **Half-Bridge; Selective Harmonic Elimination; Synchronous Speed; Revolving Magnetic Field;**

INTRODUCTION:

This type of motor is suitable for applications such as pumps and fans that do not require high levels of precision or precision. The width of the import vehicle causes the speed difference, as the actual speed of the vehicles is very close to the relative speed [1]. The project relies on a transducer that uses this cruise control system. As we can see from the torque speed signals, an induction motor draws the rated current and transmits the measured torque at a low speed. When the load increases (over load), during low speed operation, the speed decreases and the slip increases. The car can take up to 2.5 times the average torque around 20% speed. Any further overload in the shaft can stop the car. The torque generated by the vehicle is proportional to the magnetic field produced by the stator. Thus, the electricity applied to the stator is directly related to the stator flux output and angular velocity. This allows the drill bit to be generated by the stator evenly in the amount of electricity used and the amount of supply. By changing the size, the speed of the vehicles may vary. Therefore, with different power and constant flow at the same rate, leakage and that is why, torque can always be maintained in the speed range. Signal velocity reaches torque over base velocity, voltages and static motion to value values. Before designing a magnetic field, vehicles operate in a pass position in a magnetic field (such as a synthetic motor). Tesla had proposed removing the mechanics and running the device on a rotating energy field [2]. Professor Poeschel, his mentor, said this would be building a never-ending machine. This ancient, modern electromagnetic motor was an imported car. In the training cart, the field and equipment were equal in strength with the field and the field and iron cores were equal in proportion. The total energy provided for the use of the device equals the amount of energy used in the military equipment and field file.

RELATED STUDY:

Motor induction (IM) is a type of asynchronous AC in which power is transferred to a rotating device using electromagnetic induction. Another common name is the squirrel cage motor because the rotating rods with short rings resemble an elevator (a hamster wheel), where an electric motor converts electrical energy into mechanical power on its Rotor [3]. There are many ways to power the rotor. In a DC motor, this power is delivered to the vehicle directly from the DC source, while in the inlet car this force is forced into the rotor. Motor induction is sometimes called a rotor transformer because the stator (stator) is the main converter and the rotor (rotor section) is the second side. Import cars are widely used, especially motor induction, which is often used in commercial vehicles. As a rule, electrical energy is converted into mechanical energy in electrical circuits. In a DC car, electrical power is connected directly to the car, the rotating surface of the car using a brush or switch, then the DC car is called a driving car but in the case of an induction motor it is not Electricity is generated by operation but by input in the same way as a second converter with two coils it gets its power from primary. That is why this car is known as an import car. Furthermore, the training vehicle can be treated as a rotating converter, i.e., the main rotation on it is stopped while the second car is free to rotate [4]. Of all the car air conditioners, the import phase is the most widely used in the various types of commercial vehicles.

METHODOLOGY:

The flexible controlled machine model should be known to understand and design the controlled drives. Since good management has to deal with possible changes in the plant, it can be said that the flexible mechanical model can be just the size of a real factory. Nevertheless, the model should include all the significant dynamic influences that

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occur during steady state and transient operation [5]. Moreover, it is suitable for any change in inverter supply such as voltages and currents. Such a model can be obtained using one or two space-phase theory for electrical equipment. In addition to the intensity and simplicity of space theory, both approaches are approximate and both approaches will be explained. Each circuit works in a mechanical circuit equation only in steady state. When you consider steady-state performance of a machine, the electrical times are ignored during load change and stator continuous changeover. In a fast-paced engine, a machine is usually doing something in its response loop and thus its temporal behavior must be taken into account. Instead, high-performance ride control, such as the directional or positional controls, is based on the dQ's dynamic model. Therefore, to understand the vector management policies, a correct understanding of the dQ model is necessary.

IMPLEMENTATION:

The main goal is to have a sinusoidal AC power format as the base section can be randomly assigned to a range and the internal hedonics is specially selected. This is achieved by calculating the exact moment of the switch on and off of the power valves. AC output voltage is indicated by a ratio of one-half to one-quarter; Therefore, harmonics do not exist (voh. 0; h. 2; 4; 6 ...). Furthermore, the voltage form of each phase (vo. VaN) must be divided, N times in half a cycle in order to balance the basic harmonics and eliminate the N-1 harmonics in the form of AC power transmission. This inverter is like a half-visible bridge; however, the second handle provides neutral load. As expected, both adapters are S1. And S1ÿ (or S2. And S2ÿ) cannot be turned on at the same time because a short circuit will be generated beyond the DC power source v [6]. There are four specified and one incomplete. Unspecified conditions must be prevented in order to always be able to detect AC power.

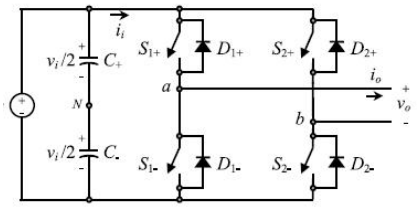

Fig. 4.1 Full bridge converter

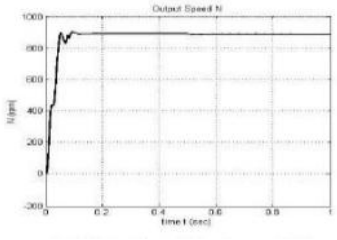

Fig. 4.2 **OUTPUT WAVEFORMS OF SPEED AT 50 HZ**

CONCLUSION:

The speed of the three-phase internal motor is controlled by changing the power source and the constant flow rate (V / f). It is evident that by keeping the v / f ratio constant, vehicles are moving at variable speed, load and without load below the rated speed. Simple, economical, easy to design, and also built in open loop. But the return to the open logo is that it doesn't fit the change in the product. It also does not achieve stable conditions very quickly. These shortcomings can be overcome by converting the open loop into a closed loop system.

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